

CLAIM SUMMARY DOCUMENT:

Claims 1-126 (Canceled).

Claim 127. (New) A DNA probe set, said probe set comprising a first probe set and a second probe set,
said first probe set being sufficient in length and substantially complementary to an entire breakpoint region of a first DNA and nucleotides on both sides of the breakpoint region but less than an entire chromosome such that said first probe set will hybridize to both sides of the breakpoint region regardless of whether the first DNA has been broken in the breakpoint region and either end fused to another DNA, and

said second probe set being sufficient in length and substantially complementary to an entire breakpoint region of a second DNA and nucleotides on both sides of the breakpoint region but less than an entire chromosome such that said second probe set will hybridize to both sides of the breakpoint region regardless of whether the second DNA has been broken in the breakpoint region and either end fused to another DNA.

Claim 128. (New) The probe set of claim 127, wherein said probes are detectably labeled.

Claim 129. (New) The probe set of claim 128, wherein said first DNA is part of the ABL1 gene on chromosome 9 and the second DNA is part of the BCR gene on chromosome 22.

Claim 130. (New) A diagnostic kit for detecting a structural abnormality caused by chromosomal breakage and rearrangement containing a reagent comprising at least one probe set of the probe set according to claim 127, and a container containing said reagent.

Claim 131. (New) A diagnostic kit according to claim 130 further comprising at least two containers, wherein a first container contains a reagent comprising said first probe set and a second container contains a reagent comprising said second probe set.

Claim 132. (New) A diagnostic kit according to claim 131 wherein said reagent comprises said first and said second probe set.

Claim 133. (New) A DNA probe set, said probe set comprising a first probe set and a second probe set,

said first probe set being sufficient in length and substantially complementary to an entire breakpoint region of a first DNA and nucleotides on both sides of the breakpoint region but less than an entire chromosome such that said first probe set will hybridize to both sides of the breakpoint region regardless of whether a second DNA from a region other than the breakpoint region has been inserted in the breakpoint region, and

said second probe set being sufficient in length and substantially complementary to a 3' end and a 5' end of a second DNA but less than an entire chromosome such that said second probe set will hybridize to both ends of the second DNA regardless of whether the second DNA is inserted in the first DNA.

Claim 134. (New) The probe set of claim 133, wherein said probes are detectably labeled.

Claim 135. (New) A DNA probe set, said probe set comprising a first probe set and a second probe set,

said first probe set being sufficient in length and substantially complementary to nucleotides on both sides of the breakpoint region of a first DNA but less than an entire chromosome such that said first probe set will hybridize to both sides of the breakpoint region regardless of whether the first DNA has been broken in the breakpoint region and either end fused to another DNA, and

said second probe set being sufficient in length and substantially complementary to nucleotides on both sides of the breakpoint region of a second DNA but less than an entire chromosome such that said second probe set will hybridize to both sides of the breakpoint region regardless of whether the second DNA has been broken in the breakpoint region and either end fused to another DNA.

Claim 136. (New) The probe set of claim 135, wherein said probes are detectably labeled.

Claim 137. (New) The probe set of claim 136, wherein said first DNA is part of the ABL1 gene on chromosome 9 and the second DNA is part of the BCR gene on chromosome 22.

Claim 138. (New) A diagnostic kit for detecting a structural abnormality caused by chromosomal breakage and rearrangement containing a reagent comprising at least one probe set of the probe set according to claim 135, and a container containing said reagent.

Claim 139. (New) A diagnostic kit according to claim 138 further comprising at least two containers, wherein a first container contains a reagent comprising said first probe set and a second container contains a reagent comprising said second probe set.

Claim 140. (New) A diagnostic kit according to claim 139 wherein said reagent comprises said first and said second probe sets.

Claim 141. (New) A diagnostic kit for detecting a structural abnormality caused by chromosomal breakage and rearrangement containing a reagent comprising at least one probe set of the probe set according to claim 133, and a container containing said reagent.

Claim 142. (New) A diagnostic kit according to claim 141 further comprising at least two containers, wherein a first container contains a reagent comprising said first probe set and a second container contains a reagent comprising said second probe set.

Claim 143. (New) A diagnostic kit according to claim 142 wherein said reagent comprises said first and said second probe sets.